

# Work Order ID 68108

Wednesday, April 06, 2011 2:28:23 PM



Page 1

Item ID: D3488-041

Accept



Setup Start



Revision ID:

Item Name: Blade Fitting Assembly, LH

Stop



Start Date: 4/6/2011 Start Qty: 12.00



Cust Item ID:

Required Date: 4/13/2011 Req'd Qty: 12.00



Customer:

Reference:

Approvals:

Process Plan:

*M*

Date: 11-04-11

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3488	Rev B								

100

0.00



DOOSAN LATHE

Doosan

Memo

0.00

Doosan Lathe

1-Turn as per Dwg DSK 101 & Folio FA625 2-Debur

*11.4.26*

*12*

110

0.00



QC2- Inspect parts off machine FAI/FAIB

QC

Memo

0.00

Quality Control

*11.4.25*

*12*

120

0.00



HAAS CNC VERTICAL MACHINING #1

HAAS 1

Memo

0.00

HAAS CNC vertical machine #1

1-Machine as per Folio FA625 & Dwg D3488 2-Debur

*11.4.26*

*SL 11/05/03*

*12*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

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Page 2

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Cust Item ID:

Required Date: 4/13/2011 Req'd Qty: 12.00



Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

130

QC2- Inspect parts off machine FAI/FAIB

0.00

SL 11/05/03

12

0



QC

Memo

0.00

Quality Control

140

QC8- Inspect parts - second check

0.00

B.4 11/05/04

12

0



QC

Memo

0.00

Quality Control

150

Chemical Conversion Coat per QSI005 4.1

0.00

12

BL

11-5-12.



HandFinish

Memo

0.00

Hand Finishing

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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**Work Order ID 68108**

Wednesday, April 06, 2011 2:28:23 PM



Page 3

Item ID: D3488-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Blade Fitting Assembly, LH

Start Date: 4/6/2011 Start Qty: 12.00



Cust Item ID:

Required Date: 4/13/2011 Req'd Qty: 12.00



Customer:

Reference:

Run Start



Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

160



Powdercoat

Powder Coating

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00

Memo

START TIME:

FINISH TIME:

OVEN TEMPERATURE:

0.00

11:00

12X / M / 11/05/16

170



QC

Quality Control

QC3- Inspect Part Finish

0.00

Memo

0.00

12 BL 11-05-16

180



HandFinish

Hand Finishing

HandFinishing

0.00

Memo

0.00

Install Inserts as per Dwg D3488

12 / M / 11/05/16

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 68108**

Wednesday, April 06, 2011 2:28:23 PM



Page 4

Item ID: D3488-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Blade Fitting Assembly, LH

Start Date: 4/6/2011 Start Qty: 12.00



Cust Item ID:

Required Date: 4/13/2011 Req'd Qty: 12.00



Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190  QC Quality Control	QC5- Inspect part completeness to step on W/O  Memo	0.00  0.00				<u>(12)</u> WH			
200  Packaging Packaging	Identify as per dwg & Stock Location: <u>EP-8</u>  Memo	0.00  0.00				<u>12</u>	<u>0</u>	<u>11/5/17</u>	
210  QC Quality Control	QC21- Final Inspection - Work Order Release  Memo	0.00  0.00						<u>11/5/18</u>	<u>(12)</u>

11-05-18  
(12)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

Wednesday, April 06, 2011 2:28:30 PM

Page 1  
T

Work Order ID: 68108



Parent Item: D3488-041

Parent Item Name: Blade Fitting Assembly, LH

Start Date: 4/6/2011

Required Date: 4/13/2011

Start Qty: 12.00

Required Qty: 12.00

Comments: IPP Rev:A New Issue 06-02-28 JLM  
IPP Rev:B As per Rev B 06-03-30 JLM  
IPP Rev:C Now On Doosan Lathe JLM Verified BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
ALS7-1032-225		Purchased		No			Each	700.0000		48			
INSERT													

Location

Loc Qty

Loc Code

ST282

700

M110768

x48

100896

100

111529

300

111581

300

D6103-003

Manufactured

No

Each

6.0000

12



Round Billet, Aluminum

Location

Loc Qty

Loc Code

MAT043

6

55430

3

65955

3

68173

(x12)

12 11.5.18

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b> 68108
<b>Description:</b> Blade Fitting, LH / Turning Detail for D3488-1/-2		<b>Part Number:</b> D3488-1
<b>Inspection Dwg:</b> D3488 / DSK101 <b>Rev:</b> B / D		<b>Page 1 of 2</b>

### FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article    ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
<b>Lathe Section</b>						
Ø2.150	+/-0.005	2.150	✓		RQ. CD	
Ø2.780	+/-0.005	2.780	✓		Att.	
Ø3.125	+/-0.010	3.125	✓			
Ø3.346	+/-0.010	3.347	✓			
0.125 x 45°	+/-0.010 x +/-0.1°	.125 x 45°	✓			
8.000	+0.030/-0.000	8.015	✓			
9.250	+/-0.010	9.250	✓			
0.188	+/-0.010	.188	✓			
R0.032	+/-0.010	R.032	✓			
R0.062	+/-0.010	R.062	✓			
Ø0.297	+0.005/-0.001	.298	✓			
Ø0.430	+/-0.010	.430	✓			
0.100	+/-0.010	.100	✓			
0.125	+/-0.010	.128	✓			
2.620	+/-0.010	2.620	✓			
3.500	+/-0.010	3.500	✓			
1.005	+/-0.010	1.005	✓			
Ø0.484	+0.005/-0.001	.484	✓			
1.180	+/-0.010	1.180	✓			
3.150	+/-0.010	3.150	✓			
3.070	+/-0.010	3.070	✓			
R0.063	+/-0.010	R.063	✓			

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>	48108
<b>Description:</b> Blade Fitting, LH / Turning Detail for D3488-1/-2		<b>Part Number:</b>	D3488-1
<b>Inspection Dwg:</b> D3488 / DSK101 <b>Rev:</b> B / D		<b>Page 2 of 2</b>	

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Milling Section						
Ø0.508	+0.006/-0.001	.509	/		vern JL3	
0.750	+/-0.010	.754	/		H-G	
1.500	+/-0.010	1.500	/		"	
11.18	+/-0.030	11.183	/		H-G	
R0.062	+/-0.010	.062	/		R-G	
0.125	+/-0.010	.128	/		"	
0.590	+/-0.010	.590	/		H-G	
0.793	+/-0.010	.796	/		H-G	
1.351	+/-0.010	1.347	/			
1.317	+/-0.010	1.323	/			
1.802	+/-0.010	1.806	/		H-G	

<b>Measured by:</b>	SL	<b>Audited by:</b>	B.A	<b>Prototype Approval:</b>	N/A
<b>Date:</b>	11/05/03	<b>Date:</b>	11/05/04	<b>Date:</b>	N/A

Rev	Date	Change	Revised by	Approved
A	06.03.31	New Issue	KJ/JLM	
B	08.09.19	Reformat P/O D3488-041	KJ/JLM	
C	08.12.02	Dimension 8.000 removed	KJ/JLM	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

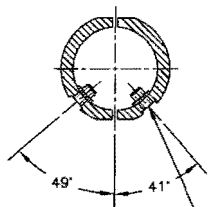
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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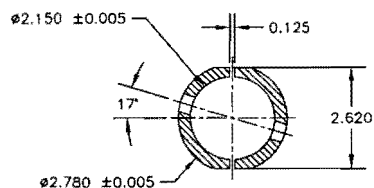
SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY

SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 68108



SECTION B-B

Ø0.297  
C'BORE Ø0.430 x 0.100  
INSTALL ALS4-1032-225 (OR AKS4-1032-225  
OR ALS7-1032-225 OR AKS7-1032-225)  
INSERTS AFTER FINISH  
(4 PLACES)



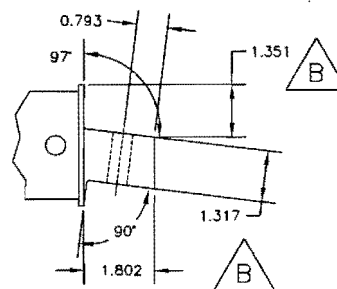
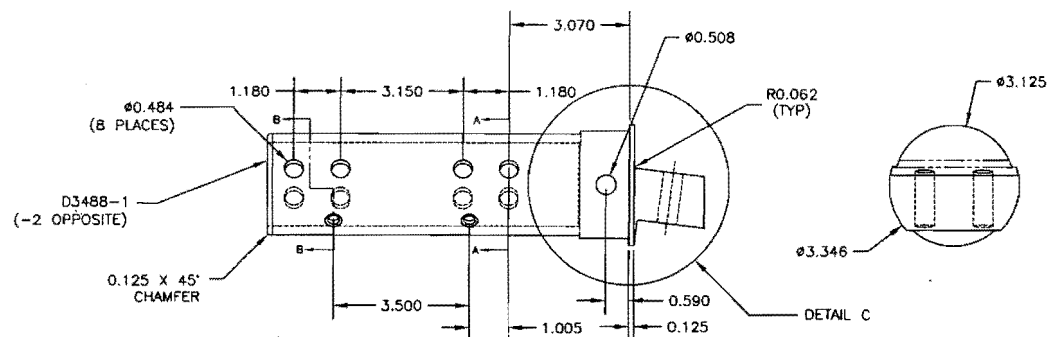
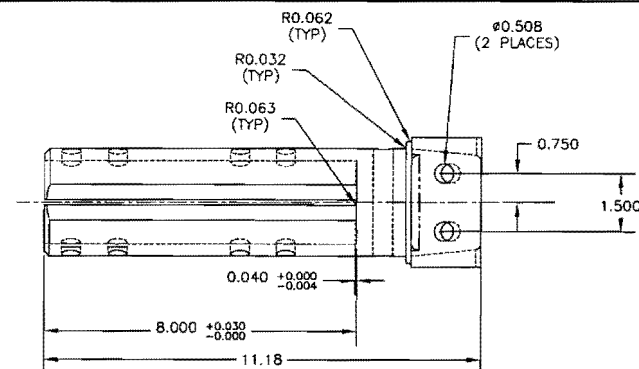
SECTION A-A

**D3488-041/-042 BLADE FITTING ASSEMBLY PARTS LIST**

QTY -041	QTY -042	PART NUMBER	DESCRIPTION
X		D3488-041	BLADE FITTING ASSEMBLY (LH)
	X	D3488-042	BLADE FITTING ASSEMBLY (RH)
1		D3488-1	BLADE FITTING (LH)
	1	D3488-2	BLADE FITTING (RH)
4	4	ALS4-1032-225 or AKS4-1032-225 or ALS7-1032-225 or AKS7-1032-225	INSERT

**D3488-041/-042 BLADE FITTING**

- MATERIAL: MAKE D3488-1/-2 FROM ALUMINUM 7075-T7351 ROUND BAR  
PER QQ-A-225/9  
(REF. DART MATERIAL SPEC M7075T73R)
- FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1  
POWDER COAT WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
- BREAK UNMARKED SHARP EDGES 0.010 TO 0.020
- INSTALL INSERTS AFTER POWDER COAT
- ALL DIMENSIONS ARE IN INCHES
- TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED



DETAIL C

D3488-041 SHOWN (D3488-042 OPPOSITE)

**RELEASED**  
06.03.15 PH  
PER DS  
ECN #781

B	06.03.15	CHANGE THICKNESS
A	05.12.20	NEW ISSUE
DESIGN	PH	DRAWN BY PH
CHECKED	PH	APPROVED PH
DATE	06.03.15	TITLE
		BLADE FITTING

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DART AEROSPACE USA, INC.

**DART** DART AEROSPACE USA, INC.  
PORT HADLOCK, MA

DRAWING NO. D3488  
REV. B  
SHEET 1 OF 1

SCALE  
1:3

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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